

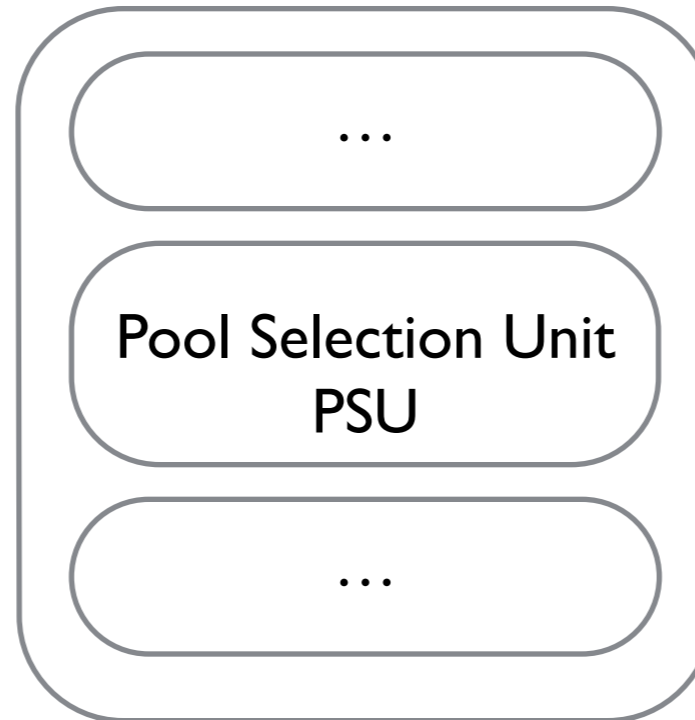
Pool Management and Pool Selection

NameSpace



no idea where the file is stored

Pool Manager



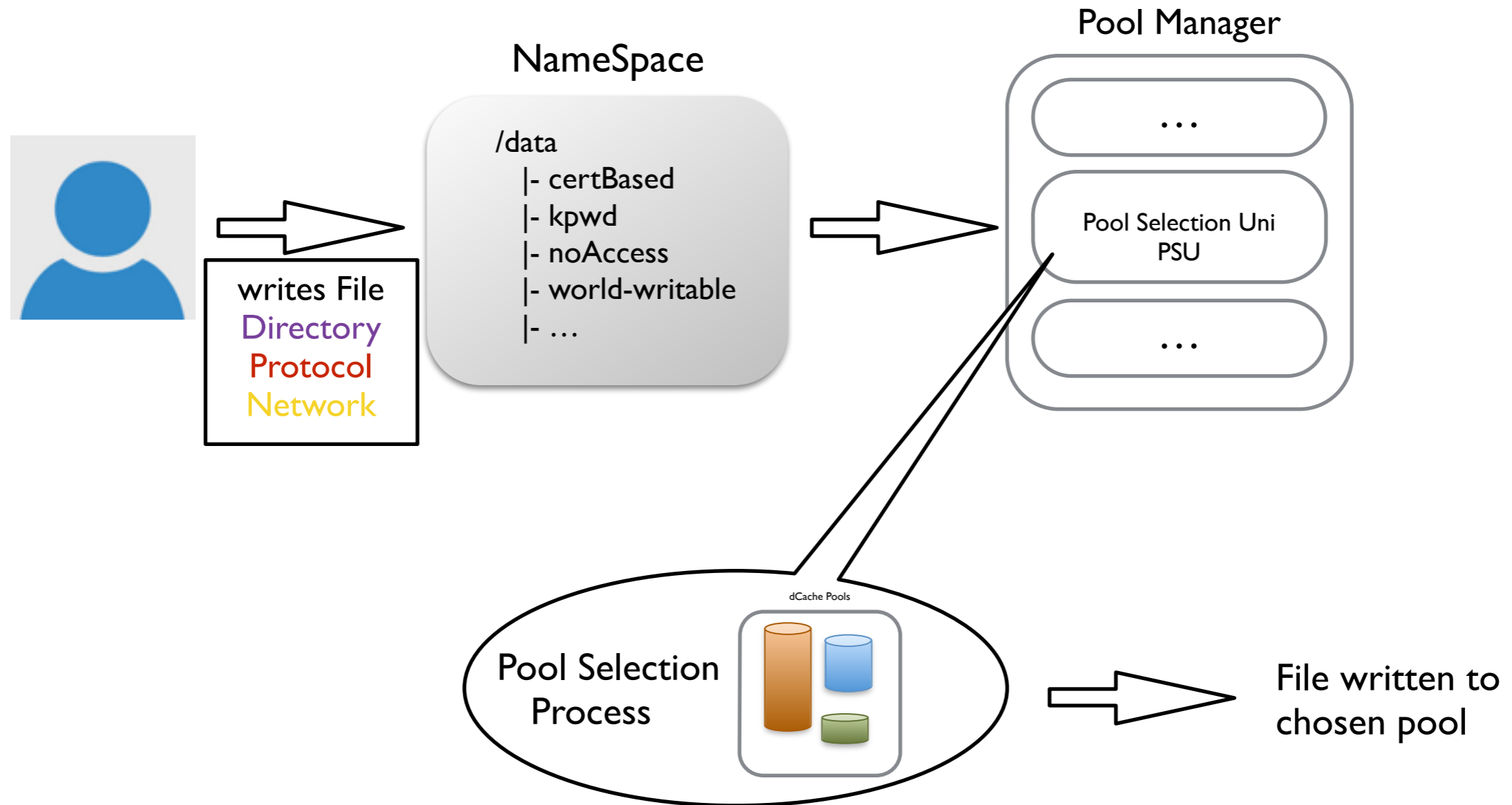
selects the pool where the physical file gets stored

dCache Pools



has physical files stored, is otherwise dumm

Pool Selection Unit



Pool Selection Process

some terminology

• Pools

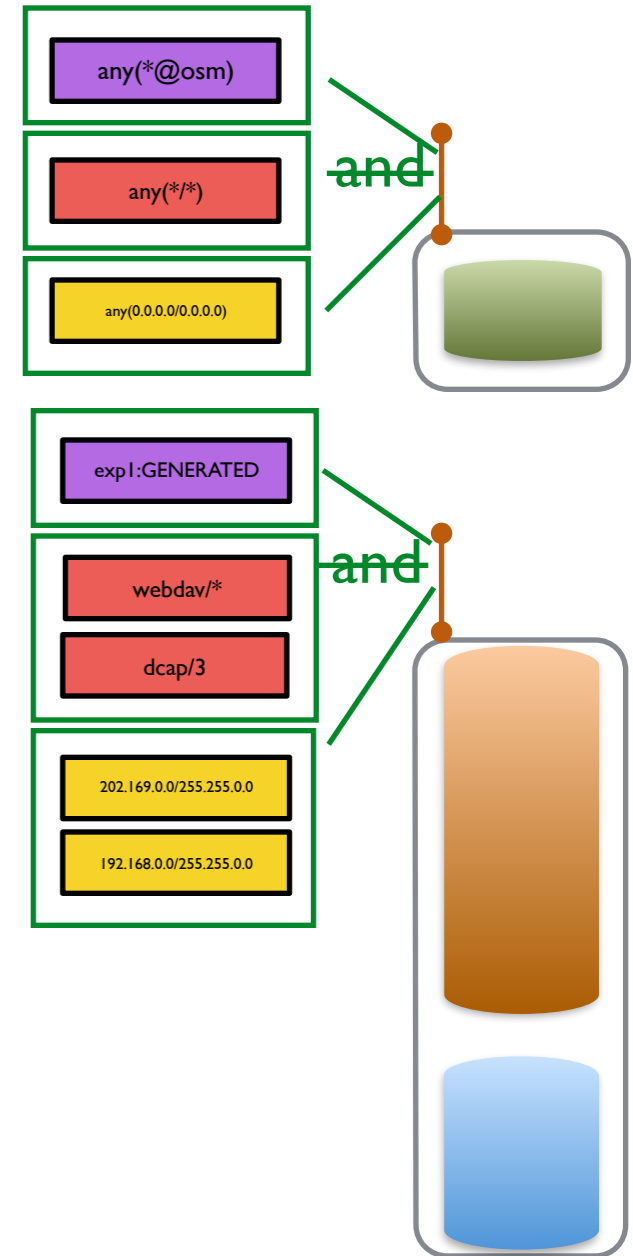
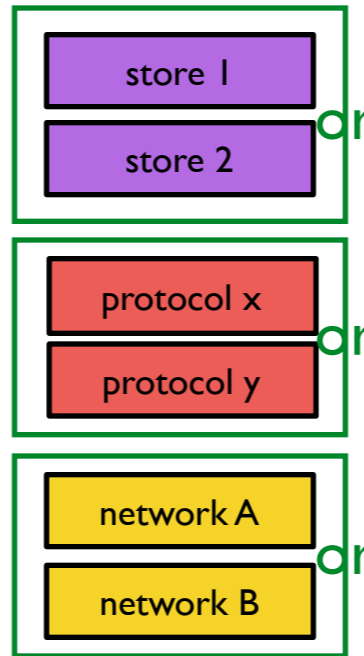
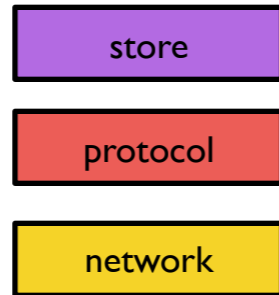
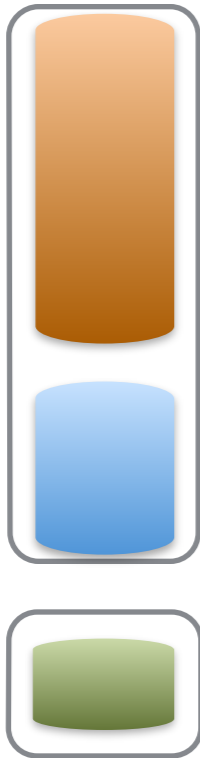
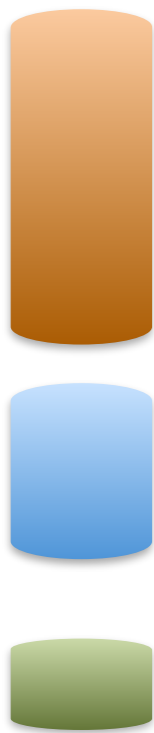
• PoolGroups

• Units

• UnitsGroups

• Links

• Links = PoolGroup + UnitGroup(s)



Unit store	Unit Protocol	Unit Network
<i>any (*@osm)</i>	<i>any(*/*)</i>	<i>any(0.0.0.0/0.0.0.0)</i>
<i>foo:bar@osm</i>	<i>webdav/*</i>	<i>192.168.0.0/255.255.0.0</i>
<i>expI:GENERATED@osm</i>	<i>dcap/3</i>	<i>202.169.0.0/255.255.0.0</i>

combine pools

criteria

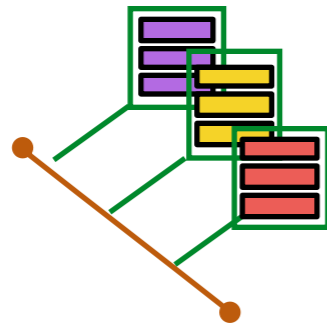
combine units

Links combine PoolGroups and UnitGroups

Pool Selection for READ/WRITE

some rules

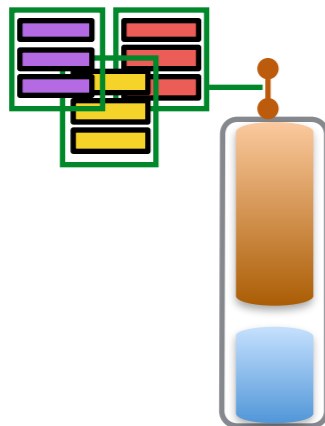
- Links are chosen when all their UnitGroups are matched



- The unit group is matched if at least one of the units is matched



- All pools in the linked PoolGroup are chosen as a possible location to write



- Links have assigned preference values
 - readpref
 - writepref
 - cachepref
 - p2ppref
- Value 0 means NO
- Value > 0 means YES
- Value -1 means, take value readpref
- For different values >0 a set of lists of pools is created
- Pools with higher preference value are chosen first

Example: Pool Selection

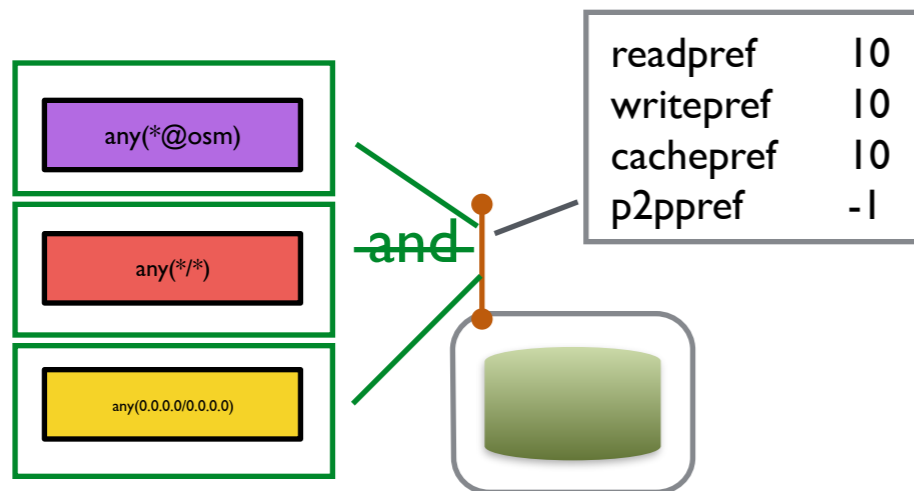
```
$ cp /home/localFile /data/exp2/exp2_f5.tst
```

(write)
Transfer with

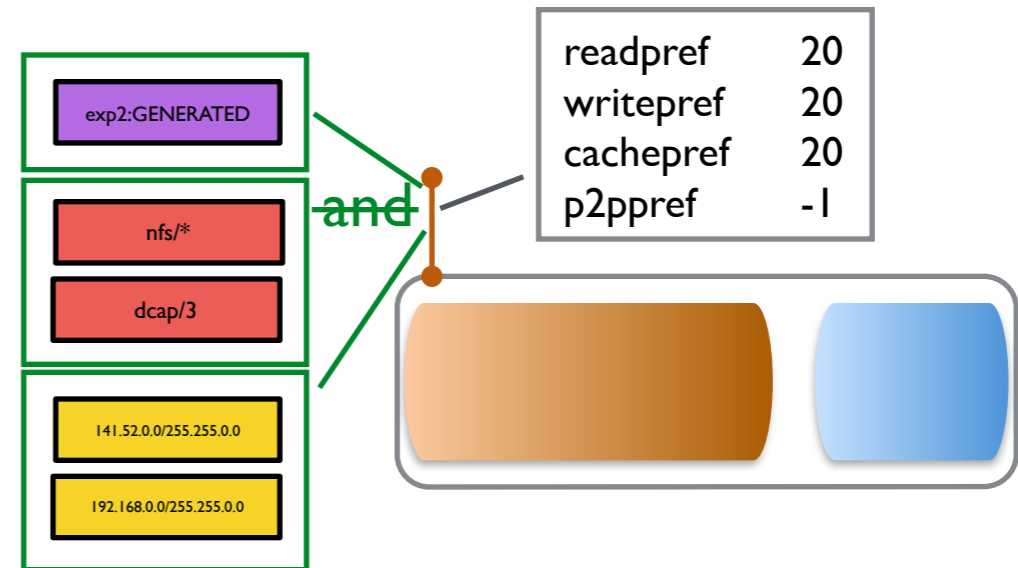
store	exp 2:GENERATED@osm
protocol	nfs
network	141.52.174.112

Looks at links

Pool Selection Uni
PSU



If no links are found the request is denied



all possible pools
are chosen



When pools are found, cost calculation is done to find the best one

Hands-on Content

What you will do in this part of the hands-on:

- reserve pools for storage
- assigning pools to a directory
- configure write and read pools